

# Northwestern High School Student Curriculum Guide

## ENGLISH

### **096 ACCELERATED ENGLISH (9) ..... CREDIT = 1**

PREREQUISITE: Teacher Recommendation

The Accelerated English 9 program is designed for college-bound students of superior ability and motivation who want to develop a high level of proficiency in the areas of grammar, composition, literary analysis, and vocabulary acquisition. Major goals of the course include fostering an appreciation of the richness of literature and developing the writing skills which are essential for success in both high school and college.

### **098 ENGLISH (9) ..... CREDIT = 1**

The English 9 program provides students with a good foundation in writing paragraphs, essays, and reports. Rules of grammar, punctuation, and spelling are reviewed. Another area of major importance is the study of various forms of literature. Also emphasized are vocabulary development, study skills, note taking, and gathering information from a variety of sources.

### **099 BASIC ENGLISH (9) ..... CREDIT = 1**

Students who have had difficulties with reading or language arts may be recommended by their teacher for placement in the Basic English 9 class. Basic reading and study skills are emphasized. The essentials of grammar and composition, as well as spelling and vocabulary development, will be studied.

### **100 ENGLISH (10) ..... CREDIT = 1**

This course stresses skills and concepts in six major areas: grammar and mechanics, vocabulary, composition, speaking and listening, comprehension, and literature. The study of grammar and mechanics is improving the quality of the students' oral and written communication. Vocabulary is developed for optimum performance in standardized testing and personal usage. Composition is mainly expository and persuasive and frequently related to literature. Speaking and listening comprehension components introduce students to formalized speaking and listening and teach students to organize their ideas, support them, and present them in a unified and coherent form. The study of literature focuses on the form and allows the students to confront and discuss the universal problems and ideas of man and make applications to life situations. Additionally, outside readings are required in an attempt to enrich the students' awareness of the world of literature.

### **101 BASIC ENGLISH (10) ..... CREDIT = 1**

Students who have had difficulties with reading or language arts may be recommended by their teacher for placement in the Basic English 10 class. This course attempts to help the student in all language skills areas - listening, speaking, reading, writing and study skills. It gives the student opportunities to work on the specific weaknesses and to succeed in a classroom situation.

### **102 ACCELERATED ENGLISH (10) ..... CREDIT = 1**

This course progresses at an accelerated pace and stresses skills and concepts in five major areas: grammar and mechanics, vocabulary, composition, speaking and listening comprehension, and literature. The study of grammar and mechanics is directed primarily at improving the quality of the students' oral and written communication. Vocabulary is developed for optimum performance in standardized testing and personal usage. Composition is mainly expository and persuasive, and frequently related to literature. Speaking and listening comprehension components introduce students to formalized speaking and listening and teach students to organize their ideas logically, support them, and present them in a unified and coherent form. The study of literature focuses on the form and allows the students to confront and discuss the universal problems and ideals of man and make applications to their life situations.

Additionally, outside readings are required in an attempt to enrich the students' awareness of the world of literature. The amount of time and the degree of emphasis on these concepts and skills vary according to the needs of the students enrolled.

**110 ENGLISH (11) ..... CREDIT = 1**

This is a survey course in American Literature for the student who may or may not be attending college. Composition and discussion activities are used to develop student attitudes and ideas concerning his/her role in the American scene. Grammar and mechanics are reviewed, spelling and vocabulary are studied extensively, and reading skills and techniques are maintained and developed.

**111 BASIC ENGLISH (11) ..... CREDIT = 1**

Students who have had difficulties with reading or language arts may be recommended by their teacher for placement in the Basic English 11 class. This course is designed for the slow learner. Reading and grammar are stressed, though some of the complex concepts of grammar are omitted (verbal, subjunctive mood) in order to devote more time to fundamental concepts (spelling, letter writing, resumes). This course can be taken only through the recommendation of the teacher.

**112 ACCELERATED ENGLISH (11) ..... CREDIT =1**

This course is a continuation of Accelerated English 10, and the emphasis on concepts and skills in literature, language, and composition is enlarged. Literature emphasis is on how universal concerns of man have been modified by the American culture. Semantics, with the emphasis on connotative and metaphoric language, is stressed in language work. In their compositions, students study research techniques, sensory and emotional responses and style to develop their reading and writing skills in clearly defined sequential steps. Grammar and mechanics are reviewed. Each student demonstrates his understanding of all areas of the language arts program by preparation of a comprehensive research paper as well as an oral defense of the paper on an American author.

**120 ENGLISH (12) ..... CREDIT = 1**

English 12 emphasizes the basic skills of communication: spelling, vocabulary, mechanics, and reading. As a result of this course, students should demonstrate a mastery of these language arts skills which will help them meet the standard speaking and writing demands for a career. In addition, students are taught to prepare a resume.

**121 BASIC ENGLISH (12) ..... CREDIT = 1**

Students who have had difficulties with reading or language arts may be recommended by their teacher for placement in the Basic English 12 class. This course attempts to help the student in all language skill areas: listening, speaking, reading, writing, and study skills. It gives him an opportunity to work on specific weaknesses and to succeed in a classroom situation.

**122 ACCELERATED ENGLISH (12) ..... CREDIT = 1**

This course is an English course for college-bound students. The work of previous grades is continued and explored. Reading selections are primarily from British and world masterpieces, and students write compositions, book reviews, and research papers in conjunction with their literature studies. These assignments, integrating organizational and critical thinking skills, become more complex. Interpretation of literary works and critiques of selections are emphasized. Because the student is expected to present himself in the best possible manner, an essential purpose of this course is to enhance written and oral skills.

**125 ADVANCED PLACEMENT ENGLISH (12) ..... CREDIT = 1**

Advanced Placement English Language and Composition is a college level course in reading, analyzing, and writing prose. This course focuses on rhetoric, style, and the development of mature writing skills. It emphasizes expository, analytical, argumentative, and descriptive essays of 500 to 1,000 words, assignments which should aid a student to write competently in all college courses.

The writing demands will include sufficient preparation to take the AP exam in English Language and Composition, which is given in May by the College Board. Successful performance on the exam may earn college credit for the course.

The AP Language course uses nonfiction, fiction and poetry models from various periods of mostly British Literature to create an awareness of different syntax, diction levels and purposes. Group discussion, oral presentations, journal writing, portfolio, and the use of computer word processing skills will also be a part of this course.

**153,154,155,156 LEARNING SUPPORT ENGLISH (9,10,11,12)  
.....CREDIT = 1**

This course is designed to improve the learning support student's basic vocabulary, to develop reading skills, and to practice writing skills. The student must meet guidelines set by the PA Dept. of Education.

## FOREIGN LANGUAGE

### **170 SPANISH I (9-12) ..... CREDIT = 1**

*PREREQUISITE:* A strong background in English and Guidance Counselor recommendation.

Spanish, level one, serves as a foundation in the introduction to the language and culture of the Spanish speaking world. Four major areas of achievement are stressed: oral comprehension, oral proficiency, reading comprehension and written comprehension. Also included is the study of Spanish grammar and structure as they pertain to conversation and composition.

### **171 SPANISH II (10-12) ..... CREDIT = 1**

*PREREQUISITE:* Spanish I

Prior to enrollment, the student will be expected to have mastered the basic skills of level one in all areas and have completed a notebook with all level one material included. The second year course provides both major grammar and structure points in the language. Written themes, talks, conversation on topical subjects, readings in translation and culture units, specifically dealing with Latin America are also discussed.

### **172 SPANISH III (11, 12) ..... CREDIT = 1**

*PREREQUISITE:* C average in Spanish II.

The third year course provides enrichment on the cultural level of the Spanish language. Art, music, history and several literary pieces are discussed as well as some fine points of grammar. Much emphasis is placed on the spoken word and students are encouraged to speak only Spanish.

### **173 SPANISH IV (12) ..... CREDIT = 1**

*PREREQUISITE:* Spanish III

AP Spanish Language is intended for students who wish to develop their proficiency in all four language skills: listening, speaking, reading, and writing. Students who enroll are expected to have a basic knowledge of vocabulary and grammar, and should have attained a reasonable proficiency in listening comprehension, speaking, reading, and writing.

### **181 GERMAN I (9-12) ..... CREDIT = 1**

*PREREQUISITE:* Guidance Counselor recommendation

Level 1 introduces the students to the language and culture of Germany. By the end of the year students should be able to function on a basic level in all four skill areas: reading, writing, listening and speaking. Communication is stressed and vocabulary is presented in topic areas such as food, clothing, free time activities and weather. Students should also be familiar with the geography of Germany and the lifestyle of the German people.

### **182 GERMAN II (10-12) ..... CREDIT = 1**

*PREREQUISITE:* German I

German II expands on the skills which students have mastered in German I. The second year of German continues to emphasize everyday communication skills, introducing a wider vocabulary and encouraging grammatical accuracy. Students continue to explore the geography and culture of German speaking Europe.

### **183 GERMAN III (11-12) ..... CREDIT = 1**

*PREREQUISITE:* German II

This course is designed as a follow-up to German II. Grammar and vocabulary previously learned in German II are reviewed and fortified, and then expanded to involve new concepts and usage. The course involves intensive use of strong verbs in the tenses learned. The four language skills are strengthened, in that reading, writing, speaking and listening comprehension are paramount to success.

**184 GERMAN IV (12) .....CREDIT = 1**

*PREREQUISITE:* German III

This course is designed as a follow-up to German III.

## **SOCIAL STUDIES**

**196 ACCELERATED AMERICAN STUDIES 9 .....CREDIT= 1**

This course will be structured primarily for students of high academic ability who have demonstrated a high level of achievement in social studies. The content will be similar to course offering 197. Methods will differ - more readings, research papers, essay tests, and lecture and discussion. Content will be U.S. History 1865 to WW II.

**197 AMERICAN STUDIES 9 .....CREDIT=1**

The course is designed to cover primarily United States history from 1865 to WW II. Some of the basic topics to be covered will be: politics-minority group history, economic development-the ups and downs, and the social development of the time. An introductory unit dealing with the historical methods as a discipline will also be used.

**200 US HISTORY SINCE 1945 10 .....CREDIT=1**

This course content will cover the end of WW II to the present day. Students will experience the reconstruction of Europe, while America grows economically and politically, becoming a world power. The conflicts of WW II, Korea, Vietnam, Grenada, the Cold War, Desert Storm and 9/11 with its culminating war on terrorism in Iraq and Afghanistan will be reviewed. Their effects on the United States socially, economically, and militarily will be considered. There will also be a focus on current domestic and world affairs.

**202 ACCELERATED US HISTORY SINCE 1945 10 .....CREDIT=1**

This course incorporates the same material as #200, but is adapted to the more accelerated student.

**204 ACCELERATED AMERICAN STUDIES 11.....CREDIT=1**

This course will be structured primarily for students of high academic ability who have demonstrated a high level of achievement in social studies. The content will be similar to course offering 205. Methods will differ - more readings, research papers, essay tests, and lecture and discussion. Content will be U.S. History 1865 to WW II.

**205 AMERICAN STUDIES 11 .....CREDIT=1**

The course is designed to cover primarily United States history from 1865 to WW II. Some of the basic topics to be covered will be: politics-minority group history, economic development-the ups and downs, and the social development of the time. An introductory unit dealing with the historical methods as a discipline will also be used.

**207 ADV PLACEMENT UNITED STATES HISTORY (11, 12)  
.....CREDIT=1**

The course is designed to be the equivalent of a freshman college course, and can provide an opportunity for students to earn college credit. The two-semester course surveys American history from the time of European discovery and exploration to the present. Reading, writing, and historical research are the key components of this course. Students will need to allot significantly more time to these tasks than would be required in other history courses. Basic class format is lecture/discussion and includes, in each unit, special activities such as debates, persuasive speeches and other oral presentations, simulated court proceedings, and the creation of various written documents. These activities will require the students to research and understand the historical positions they purport to represent. Opportunities will be available for creative use of audio and video in class presentations. A research project on a topic relating to local history to the national experience will be required. Since significant portions of the AP U.S. History exam include free response and document based essay questions, attention will be paid to development of student skills in organizing and writing timed essays.

**208 ADVANCED PLACEMENT EUROPEAN HISTORY (11, 12) CREDIT=1**

The AP course examining European History is intended for qualified students who wish to complete studies in secondary school equivalent to a college introductory courses in European history. The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which we live. Without this knowledge, we would all lack the context for understanding the development of contemporary institutions, the role of conflict and continuity in present-day society and politics, and the evolution of current forms of artistic expression and intellectual discourse.

In addition to providing a basic narrative of events and movements, the goals of the AP program in European History are to develop (a) an understanding of some of the principal themes in modern European history, (b) an ability to analyze historical evidence, and (c) an ability to analyze and to express historical understanding in writing.

## **209 ACCELERATED US HISTORY SINCE 1945 12..... CREDIT=1**

This course incorporates the same material as #210, but is adapted to the more accelerated student.

## **210 US HISTORY SINCE 1945 12.....CREDIT=1**

This course content will cover the end of WW II to the present day. Students will experience the reconstruction of Europe, while America grows economically and politically, becoming a world power. The conflicts of WW II, Korea, Vietnam, Grenada, the Cold War, Desert Storm and 9/11 with its culminating war on terrorism in Iraq and Afghanistan will be reviewed. Their effects on the United States socially, economically, and militarily will be considered. There will also be a focus on current domestic and world affairs.

## **CIVICS.....CREDIT = 1**

The Civics course is comprised of two basic study areas. First, it is the study of the individual's rights and responsibilities as an American citizen. Second, it is the study of American government; its institutions, offices, and democratic processes. The following general content area will be considered: citizenship, the United States, political parties, and interest groups, elections, local, state, and federal government, the three branches of the Federal Government, the American legal and economic systems, United States foreign policy, and current events. Special projects will be included in the following areas: opinion polls and surveys, the media, Pennsylvania history, public speaking, techniques, and courtroom procedures. The course will also include presentations by various political and career related guest speakers. **Civics will not be offered this year.**

## **ACCELERATED CIVICS.....CREDIT = 1**

This course incorporates the same material as CIVICS, but is adapted to the more accelerated student. **Accelerated Civics will not be offered this year.**

## **WORLD CULTURES.....CREDIT = 1**

World cultures gives the student a chance to compare their culture to that of others around the world and throughout the ages. The comparison will be conducted through time and space. Emphasis will be placed on the rise of civilization, Europe, in the Middle Ages, as well as the Renaissance, the rise of nation states, the reformation, the spread of Islam, and the study of eastern Europe. Multi-cultural topics and activities will be explored. Study will focus on the geography, history, government, culture and the arts, as well as on current events. **World cultures will not be offered this year.**

## **ACCELERATED WORLD CULTURES.....CREDIT = 1**

This course incorporates the same materials as WORLD CULTURES, but is adapted to the more accelerated student. **Accelerated World Cultures will not be offered this year.**

## **212 PSYCHOLOGY/LAW (12) ..... CREDIT = 1**

The "stress" in this course will be on psychology as a science and the methods used by psychologists. Subjects of psychology such as learning, personality, human development, intelligence, and behavior will be covered. The last part of the course will deal with the major mental illnesses and some suggestions for positive mental hygiene.

Criminal law and constitutional rights and responsibilities of the students will be stressed. An in-depth examination of the criminal justice system will be an integral part of this course. Resource personnel from the greater Erie community will be invited as speakers in their respective fields. A field trip to the Erie County Court House is an integral part of the last part of this course. The course is highly recommended for college bound students.

## **224 GEOGRAPHY/ECONOMICS (FIRST SEMESTER) CREDIT =.5**

The Geo/Econ course is designed to incorporate two areas of study during one semester. The students will be given an opportunity to learn the basic economic principles governing American society. There will be a survey of the economic globalization, simple economics and consumerism.

The second half will consist of a hands-on study of geography. Students will be immersed in a survey of geography, map reading, topography, and geographic landforms. In addition, there will be a focus on North American nations, capitals, provinces, and states. An overview of world nations will follow.

## **225 ART HISTORY (SECOND SEMESTER) ..... CREDIT = .5**

Within the course, an overview of art, architecture, history, literature, music and philosophy is explored. Emphasis is placed on our cultural roots beginning with the Dawn of Culture and working towards the contemporary. An emphasis will be placed on specific cultures and civilizations; Egyptian, Greek, Roman, Japanese, Chinese and Medieval European. These past civilizations and their attributes are important to learn and explore to gain a better understanding of the modern world.

## **226 ACADEMIC SPORTS LEAGUE (9-12) ..... CREDIT = .5**

The Academic Sports League class prepares students to compete in ASL by studying the Art, Music, Language and Literature, Math, Science, Economics and Social Science that are part of the United States Academic Decathlon. The topics in each of those areas change from year to year. Students also develop skills in speech, interview, and essay writing. At ASL meets, students compete against others at their grade point level, "A" students against "A" students, "B" students against "B" students and "C" students against "C" students.

## **242, 243, 244, 245 LEARNING SUPPORT SOCIAL STUDIES (9,10,11,12) CREDIT=1**

This course is designed to teach the learning support student basic social studies. Students must meet guidelines set by the PA Department of Education.

## **SCIENCE**

### **298 PHYSICAL SCIENCE (9) ..... CREDIT=1**

Physical Science is an introduction to Chemistry and Physics courses. Students will learn how to measure using the metric system. They will also study, the structure of matter, use of the Periodic Table, and chemical reactions during the chemistry portion. In Physics, students will study the Laws of Motion and the 5 forms of energy.

### **297 ACCELERATED PHYSICAL SCIENCE (9) ..... CREDIT = 1**

This course consists of individual and group investigations of basic chemistry and physics. Emphasis will be placed on a more independent and analytical approach to problem solving. Through a laboratory based curriculum students will study atomic structure, elements, mixture and compounds. An in-depth study of energy will also be covered, as well as motion.

### **300 BIOLOGY (10) ..... CREDIT = 1**

This course will cover all Pennsylvania Academic Standards necessary for successful completion of the Keystone Exam in Biology. General topics include cell structures and process, genetics, and evolution. Specific concepts within each of these disciplines will be covered in greater detail. Course activities will include labs, research projects, lectures, and group investigations. Students with an intrinsic desire and motivation to learn biological concepts are encouraged to enroll.

### **301 FUNDAMENTALS OF PHYSICAL SCIENCE ..... CREDIT = 1**

*PREREQUISITE:* Teacher recommendation only.

This course will survey the field of physical science. The student will study the basics of physics and chemistry. Current events in the sciences and connections to everyday life will be examined.

### **302 FUNDAMENTALS OF BIOLOGY ..... CREDIT = 1**

*PREREQUISITE:* Teacher Recommendation Only

This course will survey the field of Biology. The student will study life, with the emphasis on organisms and the things that affect them. Current events in the sciences and connections to everyday life will be examined.

### **303 ACCELERATED BIOLOGY I (10) ..... CREDIT = 1**

This course will cover all Pennsylvania Academic Standards necessary for successful completion of the Keystone Exam in Biology. General topics include cell structures and process, genetics, and evolution. Specific concepts within each of these disciplines will be covered in greater detail. Course activities will include labs, research projects, lectures, and group investigations. Students with an intrinsic desire and motivation to learn biological concepts are encouraged to enroll.

### **306 BIOLOGY II (12) ..... CREDIT = 1**

*PREREQUISITE:* Successful completion of Biology I and Chemistry 1 or Teacher Recommendation

Students with an interest in any health related careers will benefit greatly from this course in Anatomy and Physiology, or structure and function, of vertebrate animals. While primarily studying human anatomy and physiology, students dissect several other representative vertebrates and some of their organs. Students will perform physiology investigations using Vernier computer probeware, and complete two systems-based presentations.

### **310 CHEMISTRY I (11) ..... CREDIT = 1**

The Chemistry I course builds upon concepts introduced in Physical Science. Course topics include the properties and classification of matter, atomic structure and the periodic table, moles and chemical bonding, and chemical relationships and reactions. Emphasis is placed on developing safe laboratory techniques, proper equipment use, and communicating science. Students interested in learning more about physical science or those pursuing related careers are encouraged to enroll.

### **312 CHEMISTRY II (12) ..... CREDIT = 1**

*PREREQUISITE:* Must have had Chemistry I

This is a second-year course in Chemistry. This course will be a continuation of the first year course in Chemistry as well as an introduction to Organic Chemistry. The course is designed around the individual student and is heavily laboratory oriented. An independent research project is a requirement for this course.

### **322 PHYSICS (11, 12) ..... CREDIT = 1**

*PREREQUISITE:* Chemistry I or Chemistry I concurrent with Physics.

The Physics course includes topics in mechanics, electricity and magnetism. Knowledge of Algebra and basic Trigonometry is required for the course; the basic ideas of Calculus will be introduced and their applications will be a major goal of the course. Lab work will be assigned periodically to re-enforce topics learned in class.

### **325 ENVIRONMENTAL PROBLEMS (11,12) ..... CREDIT = 1**

Environmental Problems will deal with ecology, how living things relate to their environment, pollution, and conservation. Time will be spent outdoors observing different ecological environments. The forms of pollution will be studied: water, air, land, noise, etc. The scope of this entire program will deal with the quality of the environment and of our responsibilities to protect it. This course attempts to make the student aware of the many facets of pollution and how the student is encouraged to evaluate his/her environmental behavior and conservation practices.

### **326 ECOLOGY AND THE ENVIRONMENT (11, 12) ... CREDIT = 1**

This course will cover all Ecological and Environmental Pennsylvania Academic Standards. General topics include biodiversity, succession, science as inquiry, wetland ecology, population dynamics, pollution, endangered species, conservation, water quality, competition, biogeochemical cycles, and independent research. The class also provides an opportunity to work "in the field" on many concepts. Therefore, dressing for various environmental conditions is important. Students interested in pursuing environmental careers are encouraged to enroll.

## **MATHEMATICS**

### **404 GEOMETRY SKILLS & CONCEPTS.....CREDIT = 1**

The course is designed to refresh geometry for students who had difficulty completing the regular courses. The class provides review of the major topics of geometry. Students taking this course will have a better understanding of basic math principles and those introduced in geometry.

### **405 ALGEBRA SKILLS & CONCEPTS .....CREDIT= 1**

This course is designed to refresh Algebra I for students who had difficulty completing the regular course. The class provides review of the major topics of Algebra I. Students taking this course will have a better understanding of basic math principles and those introduced in Algebra I.

### **406 PRE-ALGEBRA ..... CREDIT = 1**

This course reinforces the concepts of fractions, decimals, and percentages as well as rational numbers, exponentiation and operations with signed numbers and solving simple linear equations. This course provides a strong foundation for students to succeed in Algebra.

### **407 ALGEBRA I ..... CREDIT = 1**

This is the foundation course for the entire academic mathematics program. This course will cover all the Pennsylvania Academic Standards necessary for successful completion of the Keystone Exam in Algebra I. Emphasis is placed upon the basic structure of Algebra in the real number system. Topics include operations with real numbers and expressions, applying and solving equations and inequalities, graphing linear functions and relations, applications of coordinate geometry, and data analysis.

#### **408 FOUNDATIONS OF ALGEBRA ..... CREDIT= 1**

This course is a review of the foundations and fundamental concepts of Algebra. It is intended for those students who have completed Algebra 1 but have yet to pass the Algebra 1 Keystone Exam. It is the bridge from the concrete to the abstract study of mathematics. The high school portion of the Standards for Mathematical Content specifies the mathematics all students should study for college and career readiness. Topics include operations with real numbers and expressions, applying and solving equations and inequalities, graphing linear functions and relations, applications of coordinate geometry, and data analysis. Real word applications are presented within the course content and a functions approach is emphasized.

#### **409 GEOMETRY ..... CREDIT = 1**

This course provides an in-depth coverage of Euclidean proofs and analytic geometry. Conditional statements, similarities of geometric figures, as well as translations, rotations, reflections and dilations are covered in great depth.

#### **410 ALGEBRA II ..... CREDIT = 1**

This course is designed to reinforce and expand on the skills learned in Algebra I. Topics included in this course are factoring, operations of polynomials, graphing linear and quadratic equations, systems of linear equations, radicals, logarithms, and complex numbers. Emphasis is placed on the application of algebraic skills learned in the solution of word problems. The advanced skills of algebra are also applied to geometric shapes.

#### **411 TRIGONOMETRY/PRE-CALCULUS ..... CREDIT = 1**

*PREREQUISITE:* Geometry and Algebra II

This course contains an intensive review of topics from Algebra, Trigonometry, and Analytic Geometry that are necessary for success in calculus. Students will learn the concepts of limits, continuity, the derivative, differentiability, integration, and other related topics.

#### **412 ADVANCED PLACEMENT CALCULUS ..... CREDIT= 1**

*PREREQUISITE:* Trigonometry/Pre-Calculus

This is an intense course that continues the study of limits, continuity, differentiability, analyzing graphs, and other related topics. Besides homework and tests, students will be required to do sample questions to prepare for the AP exam.

#### **414 STATISTICS ..... CREDIT= 1**

Statistical tests are commonly used in quantitative research. The purpose of this course is to provide a brief introduction to statistics, with an emphasis on statistics used in the sciences. Descriptive statistics, probability and inferential statistics are examined. Students are expected to have strong algebra skills.

#### **419 LEARNING SUPPORT PRE-ALGEBRA ..... CREDIT= 1**

This course is focused on pre-algebraic concepts. The content focus is aligned to the PA Core standards and will review skills and concepts presented in previous pre-algebra instruction. Specifically, topics include: operations, equations, graphing, and real world application. This course provides a foundation in the concepts in Algebra. The student must meet the guidelines set by the PA Department of Education.

#### **420 LEARNING SUPPORT ALGEBRA I-A ..... CREDIT= 1**

This course offers the fundamental concepts of Algebra. The instruction focuses on bridging the gap from concrete to abstract. Topics include: operations with real numbers and expressions, applying and solving equations and inequalities, graphic linear functions and relations, applications of coordinate geometry and data analysis. This course offers standards-aligned instruction and deepens the student's understanding of the Algebra I curriculum. The student must meet the guidelines set by the PA Department of Education.

#### **421 LEARNING SUPPORT ALGEBRA I-B ..... CREDIT= 1**

This course offers a continuation of the fundamental concepts of Algebra I-A. The instruction focuses on bridging the gap from concrete to abstract. Real world applications are presented within the course content and a function's approach is emphasized. Topics increase in relevance and rigor following the foundations course Algebra I-A. The student must meet the guidelines set by the PA Department of Education.



## **422 LEARNING SUPPORT MATH 12.....CREDIT= 1**

This course is designed for the learning support student who needs improvement in the areas of arithmetic computation, (i.e., addition, subtraction, multiplication, division, fractions and decimals). The student must meet the guidelines set by the PA Department of Education.

## **BUSINESS AND INFORMATION TECHNOLOGY**

### **431 WORD/EXCEL APPLICATIONS (FIRST SEMESTER)**

.....CREDIT = .5

This computer course is based on the Microsoft Office program of Word and Excel. Students will be exposed to the basic and advanced functions of both computer programs throughout the course via hands-on learning experiences and textbook coverage. Students desiring to take this course should be self-motivated due to the project oriented nature of the course.

### **432 ACCESS/PPT APPLICATIONS (SECOND SEMESTER)**

.....CREDIT= .5

Microsoft Office programs of PowerPoint, Publisher and Access will be used in this project oriented course to expose students to the basic and advanced functions of the three applications. Students desiring to take this course should be self-motivated as much of the work will be hands-on application.

### **434 COMPUTER PROGRAMMING I .....CREDIT = 1**

*PREREQUISITE:* "C" Average in Algebra I

This is an introductory computer programming course. Students will learn how to write programs using the basic computer language. This course will review math topics learned in Algebra I and introduces students to logical reasoning.

### **435 COMPUTER PROGRAMMING II CREDIT= 1**

*PREREQUISITE:* Successful completion of Computer Programming I and teacher recommendation

Students will further their knowledge in computer programming by working on project(s) of their own choosing. Programs written in basic computer programming language in this class can be used as senior projects.

### **500 INTRODUCTION TO COMPUTER APPLICATIONS**

**(REQUIRED) (9) .....CREDIT = .5**

This course is designed to equip students with practical use of the computer. Students will learn to keyboard efficiently and accurately using the touch-typing system. The students will acquire basic word processing, spreadsheet, and multi-media presentation skills using Microsoft Word, Excel and PowerPoint. Study skills will be integrated throughout the school year. Successful completion of this course is a Northwestern graduation requirement. (Semester Course)

### **505 BUSINESS CONCEPTS (9-12) .....CREDIT = 1**

This course is designed to give students a look into the business world as well as information concerning job opportunities. Students will have an opportunity to study the American economic system and the four basic forms of business. In addition, students will be given the opportunity to see how business directly affects their everyday lives by studying such topics as banking/checking accounts, credit and savings accounts, the roll of consumers in our economy, knowledge of consumer publications, and information on buying a car and a home. Incorporated throughout the course are opportunities to discuss or become aware of a variety of careers.

### **508 BUSINESS MATHEMATICS (10-12) .....CREDIT = 1**

This course is designed to develop competency in mathematics for personal and business use. A basic review of addition, subtraction, multiplication, division, fractions and decimals precedes the application of these related skills to applicable real-life situations, i.e., family budgeting, small business operation, consumer buying, home ownership, travel and transportation, wages/salaries/commissions, borrowing/saving/investing, taxes, retailing/wholesaling, etc.

### **510 KEYBOARDING I (10-12) .....CREDIT = 1**

Students will use Microsoft Office to learn the proper keyboarding techniques correctly, format correspondence for personal use, college assignments, and business applications, memorandums, personal and business letters, statistical tables, simple spreadsheets, and reports/ term papers. At least two keyboarding packets will be completed independently during the second semester.

**515 KEYBOARDING II (10-12) ..... CREDIT = 1**

*PREREQUISITE:* Keyboarding I

This course is for the student who has completed Keyboarding I and wishes to further develop and advance his/her keyboarding skills. Refinement in production of letters, tables, and other business forms will be emphasized. Students who elect this course should be able to work independently as well as meet deadlines. At least two advanced keyboarding packets will be completed independently during the year.

**520 ACCOUNTING I (9\*-12) ..... CREDIT = 1**

Basic principles of accounting are presented in this course. The student studies the double-entry system of accounting and learns to complete the accounting cycle for service and merchandising businesses organized as proprietorships and corporations. This course is recommended for students seeking employment in the business world as well as those who may be seeking college or business school training in any number of business related majors, i.e., business administration, marketing, management, and finance.

*\*With teacher approval*

**525 ACCOUNTING II (10-12) ..... CREDIT= 1**

*PREREQUISITE:* Accounting I

This course increases the competency of a student to deal with advanced accounting problems. A thorough review of the fundamentals is presented before the advanced work is started. Computerized accounting using software is incorporated. This course prepares a student for entry-level positions in the accounting field.

**529 PERSONAL FINANCE/MARKETING ..... CREDIT= 1**

Personal Finance is designed to prepare high school students to make wise financial decisions in personal situations. Throughout the course students will cover topics including: financial planning, money management, consumer purchasing, banking and credit, consumer credit, saving and investing, stocks, bonds, and mutual funds, tax strategies, insurance and retirement planning.

E-marketing, marketing ethics and international and cross-curricular marketing are just some of the topics that will be covered as students are exposed to the world of marketing. Other topics covered will include promotion, distribution, pricing, selling, product and service management, and employability and career development as a semester is spent exploring the basics of marketing.

**530 OFFICE TECHNOLOGY (11-12) ..... CREDIT = 1**

*PREREQUISITE:* Keyboarding II or teacher recommendation

This course is designed to provide instruction and applications parallel to the current responsibilities of administrative assistants in office environments. It includes the operation of business machines including electronic calculators, cash registers, fax machines, copiers and the like. Advanced computer applications and filing will be incorporated through the use of simulation practice sets. Upon the successful completion of this course the student will be prepared to apply for entry level positions in a business office.

**532 LIFETIME CAREER SKILLS (11-12) ..... CREDIT = 1**

Throughout this course, the focus will be on helping students to develop fundamental skills employers require for a well-trained work force. Students will go beyond simple career advice and preparation and will be introduced to the entire work and life cycle. Key issues covered will include preparing for work, working on the job, career planning, success skills, managing your money and independent living.

**ENGINEERING, MANUFACTURING, AND  
INDUSTRIAL TECHNOLOGY**

**600 INTRO TO TECHNOLOGY EDUCATION ..... CREDIT = 1**

The student will explore all areas of manufacturing and construction systems (forest technology, metal working technology, plastics, welding, and materials testing), in hopes of being better able to select an area for deeper research. This is a prerequisite for all other Tech Ed. courses.

Communications systems introduces the student to many areas of technical drafting including lettering, sketching, blueprint reading, single view drawings, orthographed drafting and design (CAD), basic architectural floor plans, and blueprint making. Neatness, accuracy, and good work habits are stressed.

Power covers magnetism, internal combustion engines, electrical principles, gears, hydraulics, pneumatics, and how they relate to each other in power applications. A text and laboratory experiment form the medium of teaching the concepts. If the required sections

are finished early, the student can specialize in any of the areas covered for the remainder of the course. The power sequence should be taken by those students interested in mechanics or electricity.

## **MANUFACTURING AND CONSTRUCTION SYSTEMS**

### **601-602-631 INDUSTRIAL MATERIALS I/II/III CREDIT = .5 each**

Students will focus on developing skills used to enhance their woodworking skills. Industrial Materials I will develop skills through teacher assigned projects while second and third level students will choose his/her own individual project. This project will reflect the student's skill level and work ethic. Students will be responsible for refunding the school for materials and hardware used. All projects will focus on quality and craftsmanship.

### **603-632-633 CABINET/FURNITURE MAKING I/II/III ..... CREDIT = .5 each**

Upon successful completion of Industrial Materials I students may enroll in this challenging real world application course. Technological advancements now allow companies to produce quality products at affordable prices. Students will focus on these advancements and apply them to real-world product solutions. Students will seek to advance their skills, become better decision makers and have higher levels of responsibility.

### **604-605-634 MANUFACTURING I/II/III ..... CREDIT = .5 each**

Upon successful completion of Intro to Technology you will now enter the world of manufacturing. In Manufacturing I the students will focus on producing a toy for the Toys-for-Cats program. Manufacturing II/III will focus on the creation of a larger piece of furniture to produce and sell, with all proceeds benefiting the students. Students will gain insight into the world of manufacturing through real world application. Students will be responsible for research and design, planning the production run, quality control, material selection and ordering, jigs and fixtures, finishing, and job descriptions.

### **606-635 BASIC CONSTRUCTION I/II ..... CREDIT = .5**

Students will get hands-on training in the area of construction and home repair. Students will be introduced to and complete basic work in plumbing, wiring, drywall installation and finishing, framing and concrete. These skills will be developed further through the production of a storage shed or children's playhouse. As part of the course, the students will be hired to work in various positions within a construction company and be responsible for a certain phase of construction.

### **608 WILDCAT VENTURES ..... CREDIT = 1**

This course will help "put it all together". Students will study various technical careers, experience co-operative learning within a work environment, develop good work habits, and build a strong foundation in various technical areas which will enable them to become on-the-job problem solvers and adaptable to an ever-changing technological society.

Through work experience, the mission of this course is to help students develop the necessary skills, attitudes and abilities necessary to be successful in the workplace. Students will form a company to manufacture products ordered from customers. After receiving job descriptions for positions available, students will decide which job(s) they wish to interview for. The owners of the company (C.A.T. Teachers) will then hire the best candidate for each position. The students will design, produce and distribute their product. Students will change jobs periodically throughout the manufacturing of products to enable them to receive a well-rounded experience. When students are hired, they will treat the experience just as if they were working in an actual job. Attendance, work ethic, attitude, and proper dress will be stressed.

## **POWER SYSTEMS**

### **612-613-614 FOUR-STROKE TECHNOLOGIES I/II/III ..... ..... CREDIT = .5 each**

In 4-Stroke Technology I the students will be instructed in safety and in a basic knowledge of the 4-stroke engine cycle. In addition, students will perform routine maintenance on small 4-stroke engines.

In 4-Stroke Technology II/III, the students will apply the knowledge gained in 4-Stroke Technologies I to completely disassemble and rebuild a small 4-stroke engine. The students will also be required to debug a small 4-stroke engine.

**616-617-618 WELDING TECHNOLOGY I/II/III . CREDIT = .5 each**

The student will receive safety instruction and gain a basic knowledge of arc, mig and oxy-acetylene welding along with oxy-acetylene and plasma cutting. The students will apply their knowledge through the completion of small experience projects and more advance projects in Welding Technology II and III.

**COMMUNICATION SYSTEMS**

**620 GRAPHIC DESIGN ..... CREDIT = .5**

An introductory course in the field of Graphic Communications. Students will learn the basics of graphics, which will include basic tools and programs that are used throughout the world. Students will also research job opportunities available in the field of graphic communications.

**621 DIGITAL MEDIA ..... CREDIT = .5**

Students will learn about digital media, including the history of digital media, present technology and future projections. This class will teach the proper use of programs used for digital imaging, as well as the use of video cameras and other digital media players.

**624-625-638 CAD I/II/III ..... CREDIT = .5 each**

In CAD I the students will be introduced to Computer Aided Drafting which gives the students the ability to understand the processes involved in creating products or manufacturing parts. This class will teach the fundamentals and basics of AutoCAD.

CAD II/III are advanced courses for those students who have completed CAD I/II. In this course, students will learn more in-depth knowledge of AutoCAD and its capabilities, which include threads, fasteners, solid modeling, etc.

**626-627-639 ARCHITECTURE I/II/III ..... CREDIT = .5 each**

In Architecture I the students will learn the basics of construction and layout, including key concepts that can be used when finding a solution to a building problem. They will learn to correctly use AutoCAD to create floor plans and elevations for buildings and houses, as well as learn the parts and correct procedures used in construction.

In Architecture II/III the students will use the knowledge that they have previously learned in Architecture I/II to design, draw, and construct a model house. They will first use their knowledge of mechanical drawing to draw the elevations and floor plans for their house in either a 1/4 or 1/2 architectural scales. Once the mechanical drawings are finished, the students will transfer their drawings to CAD using architectural settings. When all drawings are finished, the students will begin constructing their scale model house using the architectural drawings they have created.

**ENVIROMENTAL & RESOURCE MANAGEMENT (AGRICULTURE)**

**646 AGRISCIENCE APPLICATIONS ..... CREDIT = 1**

This course focuses on integrating biological/physical sciences with technology as related to the environment, natural resources, food production, science and agribusiness. Topics of instruction include agricultural awareness and literacy, leadership and FFA (Future Farmers of America), employability skills and introduction to all aspects of the total agricultural industry. Skills in biology, language, writing, computers, mathematics, and physics are reinforced in this course. Work-based learning strategies appropriate for this course are field trips, shadowing, agriscience projects, and supervised agricultural experiences. (Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.)

**650 AGRICULTURAL AND MECHANICAL ENGINEERING  
..... CREDIT= 1**

This course develops knowledge and technical skills in the broad field of agricultural machinery, equipment, and structures. The primary purpose of this course is to prepare students to handle the day-to-day problems, accidents, and repair needs they will encounter in their chosen agricultural career. Topics include agricultural mechanics safety, agricultural engineering career opportunities, hand/ power tool use and selection, electrical wiring, basic metal working, basic agricultural construction skills related to plumbing, concrete, carpentry, basic welding, and leadership development. Skills in physics, geometry, and algebra are reinforced in this course. Work-based learning strategies appropriate for this course are agriscience projects, field trips, shadowing, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.

**651 HORTICULTURE ..... CREDIT = 1**

This course provides instruction on the broad field of horticulture with emphasis on the scientific and technical knowledge for a career in horticulture. Topics in this course include plant growth and development, plant nutrition, media selection, basic plant identification, pest management, chemical disposal, customer relations, career opportunities, and leadership development. Skills in Biology, Chemistry, and Algebra are reinforced in this course. Work-based learning strategies appropriate for this course are agriscience projects, internships, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies. Students will have the opportunity to take the private applicators section of the PA State Pesticide Certification Exam for possible certification.

**652 LANDSCAPE CONSTRUCTION & GREENHOUSE MANAGEMENT. .... CREDIT = 1**

This course provides hands-on instruction and emphasizes safety skills needed by landscape technicians in the field. This course is based on the Pennsylvania Landscape Contractor's Association skill standards for a Certified Landscape Technician. Students are instructed in interpreting landscape designs, identifying landscape plants, and planting/maintaining trees, shrubs and turf. Landscape construction is emphasized in the areas of grading and drainage, irrigation, paver installation and the use/maintenance of landscape equipment. Current topic discussions provide students an understanding of careers and the employability skills needed to enter the landscape industry. Students will have the opportunity to take the CLT test and possibly receive certification. FFA and SAE are also an integral part of this class.

**647 AGRICULTURE LARGE ANIMAL SCIENCE ..... CREDIT = 1**

This course focuses on the basic scientific principles and processes that are involved in animal physiology, breeding, nutrition, and care in preparation for an animal science career major. Topics include animal diseases, introduction to animal science, animal nutrition, animal science issues, career opportunities, and animal evaluation. Skills in Biology, Chemistry, and Algebra are reinforced in this course. Work based learning strategies appropriate for this course are agriscience projects, internships, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies. Students will be required to complete an animal project for class.

**648 SMALL ANIMAL SCIENCE ..... CREDIT = 1**

This course provides instruction on animal husbandry topics related to small animals that are served by a veterinarian. Content related to the breeding, grooming, care and marketing of animals that fit into this category will be covered through this course. Opportunities for students to gain hands-on experience will be included in the course and reinforced through work-based learning and leadership experiences. FFA and SAE are also an integral part of this class.

**649 ENVIRONMENTAL & NATURAL RESOURCES ... CREDIT = 1**

This course provides an introduction to environmental studies, which includes topics of instruction in renewable and non-renewable natural resources, history of the environment, personal development, water and air quality, waste management, land use regulations, soils, meteorology, fisheries, forestry and wildlife habitat. Skills in Biology and Algebra are reinforced in this class. Work-based learning strategies appropriate for this course are agriscience projects, field trips, shadowing, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.

**653 - 655 AG LEADERSHIP I, II, III ..... CREDIT = 1**

This course is available to FFA officers and committee chairs. The course consists of conducting daily FFA business, produce program of activities for FFA Chapter, and design and update Albion FFA website as well as web sites for current classes in Ag Education. Students will be required to organize and submit a budget for the year, POA, monthly agendas and meeting skits. Students will study leadership, parliamentary procedure, business planning, accounting, and Agriculture politics.

**656 - 659 AG SAE I, II, III, IV ..... CREDIT = 1**

This is the Supervised Agriculture Education (SAE) Record Book class. Students must use Pennsylvania's current approved SAE books for current Ag projects, and must complete a minimum of 180 total hours in projects for credit. Letter grade is based on documentation, completeness and accuracy of total SAE Projects. Course is graded as Pass/Fail.

**660 AGRICULTURAL ADVANCED STUDIES (12) ..... CREDIT = 1**

This is a three-phased exit course for a senior that is career focused in agricultural education. The three components of the program include a research paper, a product, and a presentation. Students demonstrate their ability to use content and apply knowledge to real-world situations in a career major. In addition, they will also demonstrate their ability to write, speak, problem-solve, and use life skills

such as time management, planning, follow-through, and organization. Students work under the guidance of a teacher-facilitator in collaboration with community members, business representatives and other school-based personnel.

## FAMILY AND CONSUMER SCIENCES

### 660 BASIC FOODS (9-12) ..... CREDIT = 1

The Basic Foods course will cover basic nutrition, meal planning and special diets. Also, the majority of the course work will be spent in food preparation units which would include: breads, pastries, cookies, cakes, pastas, soups, meats, candy, salads, fruits and vegetables. The classwork includes theory as well as lab work in the kitchens. This course is a prerequisite for Advanced Foods.

### 662 ADVANCED FOODS (10-12) ..... CREDIT = 1

*PREREQUISITE:* “C” or better in Basic Foods or teacher recommendation

The Advanced Foods course will cover a review of basic kitchen safety, lab procedures, and nutrition with special emphasis given in this course to planning and preparing Ethnic/International dishes. This course will also cover consumer and career skills in food preparation and budgeting in the food preparation industry.

### 670 CHILD DEVELOPMENT (9-12) ..... CREDIT = 1

The Child Development course will cover information concerning the parenting decision, parenting skills, family planning, childbirth, and the development of a child from birth to age five. The second semester of the year will cover careers in child development and child care field, discipline techniques, activities for teaching preschoolers, and the eight to nine week preschool lab. The preschool lab allows high school child development students to teach and learn from 3-5 year olds in a preschool setting for two days/week. This course leads to employment in the child care field.

### 680 CHILD DEVELOPMENT PRACTICUM (2 PERIODS) CREDIT = 2

*PREREQUISITE:* Child Development

This course is open to juniors and seniors. It will be offered at Northwestern Elementary School, two periods per day and will be worth two credits. Students requesting this course must have completed the Child Development course with a final grade of “B” or better as well as the application process. Students requesting this course must also seek approval from the high school teacher supervising the course. Candidates for acceptance into this course should have the following characteristics: good school attendance record, future interest in career working with children, and willingness to complete many varied activities requested by cooperating elementary teacher. Requirements include: assisting elementary teacher, weekly written journal of activities, and an attendance report. The number of student aides that can be placed is limited to the number of elementary teachers requesting a student aide. This course can lead to employment in the child care field.

## ARTS AND HUMANITIES

### 700 CONCERT BAND (9-12) ..... CREDIT = 1

Concert Band is open to all students with an instrumental music background in grades nine through twelve. Students sharpen their skills and rehearse for the performance of two or three evening concerts.

### 706 CHORUS (9-12) ..... CREDIT = 1

Chorus is designed to provide enjoyment through participation in singing of materials selected mainly from popular shows, religious, spiritual, and traditional music. Emphasis is also placed on acquiring knowledge about the working of the human voice and how to better use and improve the singer’s own voice.

### 710 ART I / ARTS & CRAFTS ..... CREDIT = 1

This class offers a combination of Art I lessons and art & crafts. Students will experience drawing, painting, art history, ceramics, print-making, paper mache, etc.

### 711 ART II (10-12) ..... CREDIT = 1

*PREREQUISITE:* Art I or teacher recommendation

This course offers more advanced lessons in painting, drawing, graphics, design elements and principles, and some arts & crafts.

**712 ART III (11, 12) ..... CREDIT = 1**

*PREREQUISITE:* Art II or teacher recommendation

Emphasis will be on drawing and painting (oil & watercolor), independent work, graphic design, art history, and arts & crafts.

**713 ART IV (12) ..... CREDIT = 1**

*PREREQUISITE:* Art III or teacher recommendation

An advanced class for students who will create an art portfolio. Emphasis will be on detailed drawing, art history, oil and watercolor. Also included is a more in-depth study of certain areas of art.

**716 CERAMICS I ..... CREDIT = 1**

This course is designed for the student who is interested in working a full year with clay. The students will learn coil, slab, the potter's wheel, and sculpture.

**717 CERAMICS II..... CREDIT = 1**

*PREREQUISITE:* Ceramics I

An advanced art class designed for students who have successfully completed Ceramics I. This course offers an in-depth study of hand built and wheel created ceramic pieces. Students will gain a broader understanding of the creative process. Building on the principles of ceramics, this course takes a problem solving approach and combines the history of ceramics with the hands on creations of ceramic pieces.

**719 STUDIO ART / PAINTING ..... CREDIT = 1**

*PREREQUISITE:* Must have passed Art III with a "B" average.

This course emphasizes the field of drawing and painting. A sketchbook will be required. Portfolio work will be completed for the student interested in the field of painting. Art competitions will be expected.

**PHYSICAL EDUCATION**

**..... CREDIT = .5**

	<u>BOYS</u>	<u>GIRLS</u>
9th grade	795	797
10th grade	800	801
11th grade	810	811
12th grade (Elective)	820	821

Physical education is a required course for all students for graduation. Each student is required to dress in clothing appropriate for activity. An attempt is made to schedule students according to their appropriate grade levels. However, due to scheduling conflicts, some of the classes contain mixed grade levels.

Physical education classes will be devoted to teaching students how to do the various activities well enough to enjoy the participation. When this level of skill development has occurred, physical education classes will then be devoted to participation in the various activities rather than explanations, demonstrations, and practice. Hopefully, each student will find one or more of the activities that he/she will enjoy enough to pursue after graduation. Also, special emphasis is placed on the development and testing of health related fitness.

**850 HEALTH (11) ..... CREDIT = .5**

Efforts are made by the Health faculty to teach the most current health information relevant to each student's needs in terms of personal, community, family, and consumer health and wellness.

Class activities include lectures, discussions, films, guest speakers, small-group work, tests, and quizzes. Delicate topics such as sexually transmitted diseases and teenage suicide are included in the course as well as fitness, nutrition, first aid, etc.

## **Career Education**

### **852 CAREER EXPLORATIONS (10)**

..... **CREDIT = .5**

This course will provide opportunities for students to explore potential career options and ensure their secondary education is aligned with these goals. The course will use the software, Career Cruising, to analyze career goals, conduct interest surveys, and then link students to resources necessary to accomplish their goals. The course will also allow for more cross-curricular activities so that students have experiences that connect what they are learning in their other courses to real life job expectations and knowledge requirements.

## **Erie County Technical School**

### ***Communications***

#### **880/828 ART AND DESIGN FOR BUSINESS**

Course Description: The Art & Design program helps students develop and expand their artistic talents as they prepare for a career in the business world of art. Graduates are prepared to go on to college or a post-secondary art school having had courses in areas such as color theory, perspective and illustrative drawing, lettering, photography and graphic design. Students completing the Art & Design program can earn up to 15 credits at the Art Institute of Pittsburgh.

#### **882/830 COMPUTER PROGRAMMING**

Course Description: Prepares students to major in a wide variety of computer related fields. This course exposes students to computer operations, data entry and computer programming in both present and future practices in the ever changing world of data management. Several post-secondary schools offer academic credits to ECTS graduates in areas such as information management and programming.

#### **887/834 GRAPHIC COMMUNICATIONS**

Course Description: Exposes students to all aspects of the printing business including design, layout, printing, and finishing of any printed material using computer equipment, darkroom equipment and printing presses. Completers of the Graphic Communications program receive credits at the Pittsburgh Technical Institute and Fortis Institute.

### ***Construction***

#### **879/827 CONSTRUCTION TRADES**

Course Description: This program provides students with the theory and fundamental building skills related to residential construction. Program completers can enter construction management programs at post-secondary schools such as the PA College of Technology which is the technical college of Penn State University. Many ECTS graduates move directly into rewarding and successful careers in the construction industry.

#### **890/837 FACILITY MAINTENANCE TECHNOLOGIES**

Course Description: This program prepares students for employment in the facility engineering or maintenance department of any major business. This versatile program offers several areas of instruction in plumbing, electrical, HVAC, carpentry and machining to become diverse, skilled craftsperson. Students are also qualified to attend schools such as the PA College of Technology to earn a degree in a related field.

### ***Human Services***

#### **894/840 EARLY CHILDHOOD EDUCATION**

Course Description: This program allows students to develop a strong background in child development and are well prepared to enter many fields related to education at the elementary or early childhood level. ECTS operates the Tech Tikes Preschool which gives high school students the opportunity to work with children from the community in the areas of nutrition, art, music and literature while learning about the growth and development of children. Students receive credit from several colleges towards a degree in education upon completion of this program.

#### **883/831 COSMETOLOGY**

Course Description: This program teaches the art and science of cutting, coloring and processing of hair, nails, skin care and makeup. The program is designed to prepare students for the Pennsylvania State Board entrance exam. Upon passing the state exam students are licensed to work in the growing field of cosmetology in any established salon. Students are also encouraged to take business courses at the collegiate level so they will be qualified to operate and manage their own business.



## **881/829 CULINARY ARTS**

Course Description: In this program, students are taught all of the areas related to food preparation. An instructional kitchen is utilized to prepare lunches and deli services for the students and faculty. Students are prepared to continue their education at a college or technical institute for hotel and restaurant management or to further develop their skills to become a certified chef.

## **889/836 HEALTH ASSISTANT**

Course Description: The program prepares students for a variety of health related careers most of which require additional education at the post-secondary level. In this rigorous program, students learn medical terminology, anatomy, physiology and how to perform basic medical procedures. Many health assistant graduates continue their education to become registered nurses or enter into related health care careers.

### ***Manufacturing***

## **893/839 ELECTRICAL ENGINEERING**

Course Description: The program is designed to provide students with a solid background in electrical systems including hydraulics, pneumatics, motor control, programmable logic controls and residential wiring. Several colleges and post-secondary schools award students credits for completion of the electrical engineering program including Edinboro University.

## **885/833 ELECTRONICS**

Course Description: The program instructs students in the details of working with digital equipment. Upon completion of the program students pursue careers in the areas of computer and electronic equipment repair, installation and maintenance as well as a wide variety of related careers. Students choosing to continue their education at the post-secondary level are prepared to major in areas such as electrical engineering and electrical grafting.

## **892/838 METAL FABRICATION**

Course Description: This program trains students in the areas of pattern development, fabrication and welding. Students are prepared to enter the workforce in the demanding field of welding or may continue their education in a manufacturing area.

## **888/835 PRECISION MACHINING**

Course Description: The program gives students the opportunity to manufacture parts from various metals on machines such as CNC lathes, engine lathes, vertical and horizontal milling machines, surface and cylindrical grinders, drill presses and band saws. Students learn the properties of steel, aluminum and brass and gain an understanding of how these properties are applicable in the trade. Students trained in this program develop the necessary skills to be entry-level machinists.

## **884/832 DRAFTING AND DESIGN**

Course Description: This program is for students interested in drafting, mechanical design, engineering or architectural drafting. This program provides the fundamentals of mechanical drafting in addition to AutoCAD. Students utilize various applications to create technical and architectural drawings for the manufacturing and construction industries.

### ***Transportation***

## **877/841 AUTOMOTIVE TECHNOLOGIES**

Course Description: Changes in automotive technology have increased the importance of the automotive technician. The program provides the students with the theory and practical experience needed to diagnose and repair automotive systems and their components. Students meeting the requirements will be eligible to take the state inspection test for a Class One license. This course covers the repair and maintenance of the ignition system, tires, braking, steering and suspension, alignment, electrical systems, fuel injection, engine repair, engine performance and cooling system. Major and minor tune-up and inspection procedures are also included as well as state emission testing.

## **877/841 AUTOMOTIVE BODY REPAIR**

Course Description: Students in this program learn all phases of auto body repair including damage analysis, rebuilding, reconditioning, sanding and refinishing, basic metal working and dent repair, frame straightening, spray painting, welding and glass installation. The program uses demonstration automobiles to provide students with the opportunity to develop confidence by applying the theoretical concepts.

## ***JUNIORS/SENIORS ONLY***

### **843 COMPUTER NETWORKING**

Course Description: This two year program teaches students to design, build and maintain computer networks. The curriculum covers a broad range of topics from basic networking skills to more complex concepts such as applying troubleshooting tools. This course is designed to provide students with classroom and laboratory experiences in emerging networking technologies that will empower them to further their education in the networking field. Students who successfully complete this program are eligible to earn Cisco Certified Network Associate (CCNA™).

The curriculum includes the following: OSI model industry standards; networking topologies; IP addressing, including subnet masks; networking components; basic network technology, design, beginning router configuration; routed and routing protocols; advanced router configurations; LAN switched design; Novell IPX; WAN theory and design; WAN technology, PPP, frame relay, ISDN; and network troubleshooting.

### **844 TOURISM AND HOSPITALITY MANAGEMENT**

Course Description: This two-year tourism & lodging management program has everything you will need to get started on a hospitality career. In this program, students participate in classroom activities that teach valuable lodging skills and knowledge. Students will also participate in internships supervised by the instructor and a worksite mentor. Major instructional units in the curriculum include: an overview of lodging management, the front office, housekeeping, leadership and management, marketing and sales, and food and beverage service. This program corresponds to competency lists used in the American Hotel & Motel Association's Educational Institute's post-secondary curriculum and forms the basic for articulation agreements with colleges and universities.

## **RCI-REGIONAL CHOICE INITIATIVE (DUAL ENROLLMENT)**

RCI offers courses through local Universities during the regular school day and schedule. Courses are taught at a central site (Erie County Tech School Skill Center) and transportation is provided by Northwestern School District. Students can take 6 college credits each semester during their junior and senior year. Classes are offered two mornings each week, and students return to Northwestern for afternoon classes. Students may also take dual-enrollment courses directly on a college campus in order to earn both high school and college credits. See the Guidance office for further details.